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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/878,789 | 06/10/2001 | Brian G. Agee | | 1456 |
| 7590 | 12/29/2004 | | EXAMINER | |
| George S. Cole, Esq. 495 Seaport Court, Suite 101 Redwood City, CA 94063 | | | WONG, BLANCHE | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2667 | |

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/878,789 | AGEE ET AL. | |
| | Examiner | Art Unit | |
| | Blanche Wong | 2667 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM
 THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 10 June 2001.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-184 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 1-184 is/are allowed.
 6) Claim(s) _____ is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 10 June 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

1. This application is in condition for allowance except for the following formal matters:

In cl. 1, ln. 16, Applicant is suggested to replace -- said analog radio waves – with “said analog radio signals” as recited in ln. 10-12.

In cl. 1, ln. 53, Applicant is suggested to clarify – diversity channels – in relations to – diversity capacity – as recited in ln. 15.

Similar problems are found in claim 2.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Allowable Subject Matter

2. Claims 1-184 are allowed.
3. The following is an examiner’s statement of reasons for allowance:

With regard to cl. 1,2,108, the prior art of record fails to anticipate or make obvious all limitations in a method of optimizing a wireless electromagnetic communication network, such limitations include a first subset of MIMO-capable nodes

comprising of an antennae array of M antennae, and "said set of nodes being deployed according to design rules that prefer meeting the following criteria" as defined in cl. 1 and 2.

With regard to cl. 41, the prior art of record fails to anticipate or make obvious all limitations of a set of nodes with a spatially diverse antennae array of M antennae and a transceiver in a wireless electromagnetic communications network, the transceiver comprises a Butler Mode Forming element, a transmission/reception switch, a TCM codec, a pilot symbol CODEC element; and in turn, these elements comprise a vector OFDMreceiver element with an ADC bank, a MT DEMOD element, a Mapping element, a MUX element, a link CODEC, a multilink diversity, an equalization algorithm, etc.

With regard to cl. 101 and 113, the prior art of record fails to anticipate or make obvious a wireless electromagnetic communication network, that comprises a first subset of MIMO-capable nodes comprising of an antennae array of M antennae, and "said set of nodes further comprising one of more proper subsets of nodes" as defined in cl. 101 and 113.

With regard to cl. 108, the prior art of record fails to anticipate or make obvious all limitations in a method of optimizing a wireless electromagnetic communication network, such limitations include a first subset of MIMO-capable nodes comprising of an

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antennae array of M antennae, and "said set of nodes being deployed according to design rules that prefer meeting the following criteria" as defined in cl. 1 and 2.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rw

BW

December 20, 2004



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600